



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0575; Directorate Identifier 2014-NM-086-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for all The Boeing Company Model 747-8F and 747-8 series airplanes. This proposed AD was prompted by reports of delamination damage to leading edge (LE) variable camber krueger (VCK) flaps. This proposed AD would require repetitive inspections to detect delamination damage of the lightning strike applique (LSA) on the LE VCK flaps, and corrective actions if necessary. We are proposing this AD to detect and correct delamination damage to the LE VCK flaps, which can reduce the lightning strike protection capability on the LE VCK flaps and result in an uncommanded motion of the trailing edge flap system. Such uncommanded flap motion, without shutdown of the trailing edge or leading edge flaps, may cause unexpected changes in lift, potentially resulting in asymmetric lift and loss of control of the airplane.

DATES: We must receive comments on this proposed AD by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0575; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Kenneth Frey, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6468; fax: 425-917-6190; email: kenneth.frey@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the **ADDRESSES** section. Include “Docket No. FAA-2014-0575; Directorate Identifier 2014-NM-086-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received multiple reports of damage to the LSA on the LE VCK flaps found during ground inspections on Model 747-8F and 747-8 series airplanes. The damage included delamination of topcoat and metal foil layers from the underlying dielectric layer of the LSA. In some cases, the LSA damage was incorrectly identified as missing or peeling paint.

Excessive delamination damage can reduce the lightning strike protection capability on LE VCK flaps. Loss of lightning strike protection could expose the electrical traces of the leading edge failure indication (LEFI) system on the back side of the LE VCK flaps to a direct lightning strike. A direct lightning strike to the LE VCK flaps with existing LSA damage could result in direct lightning attachment to the high lift flap control units (FCUs), potentially resulting in an uncommanded motion of the trailing edge flap system. Such uncommanded flap motion, without shutdown of the trailing edge

or leading edge flaps, may cause unexpected changes in lift, potentially resulting in asymmetric lift and loss of control of the airplane.

Relevant Service Information

We reviewed Boeing Special Attention Service Bulletin 747-57-2338, dated January 14, 2014. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for Docket No. FAA-2014-0575.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under “Differences Between this Proposed AD and the Service Information.”

The phrase “corrective actions” is used in this proposed AD. “Corrective actions” correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

Differences Between this Proposed AD and the Service Information

The applicability in this proposed AD does not refer to paragraph 1.A.1. “Effectivity,” of Boeing Alert Service Bulletin 747-57-2338, dated January 14, 2014. This service bulletin does not contain a comprehensive list of the airplanes affected by the identified unsafe condition. Therefore, the applicability of this proposed AD is all Model 747-8F and 747-8 series airplanes.

Costs of Compliance

We estimate that this proposed AD affects 6 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	8 work-hours X \$85 per hour = \$680 per inspection cycle	\$0	\$680 per inspection cycle	\$4,080 per inspection cycle

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This proposed regulation is within the scope of that

authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2014-0575; Directorate Identifier 2014-NM-086-AD.

(a) Comments Due Date

We must receive comments by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all The Boeing Company Model 747-8F and 747-8 series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 57, Wings.

(e) Unsafe Condition

This AD was prompted by reports of delamination damage to leading edge (LE) variable camber krueger (VCK) flaps. We are issuing this AD to detect and correct delamination damage to the LE VCK flaps, which can reduce the lightning strike protection capability on LE VCK flaps and result in an uncommanded motion of the trailing edge flap system. Such uncommanded flap motion, without shutdown of the trailing edge or leading edge flaps, may cause unexpected changes in lift, potentially resulting in asymmetric lift and loss of control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Inspections and Corrective Actions

Except as specified in paragraph (h) of this AD, at the applicable time specified in paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 747-57-2338, dated January 14, 2014: Do a general visual inspection to detect delamination damage of the lightning strike applique (LSA) on the LE VCK flaps; and do all applicable corrective actions before further flight; in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-57-2338, dated January 14, 2014. Repeat the inspection of the LSA on the LE VCK flaps thereafter at the applicable intervals specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-57-2338, dated January 14, 2014.

(h) Exception to Service Information

Where Paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 747-57-2338, dated January 14, 2014, specifies a compliance time “after the Original issue date of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane.

(j) Related Information

(1) For more information about this AD, contact Kenneth Frey, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6468; fax: 425-917-6190; email: kenneth.frey@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington on August 15, 2014.

Jeffrey E. Duven,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

BILLING CODE 4910-13-P

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